

**Animal Feed Scheme**  
**Milk Replacer**  
**Test Material Code # 201829**

**Method Summary Report**  
(Precision Report Follows)

**# Methods Reported: 355**  
**# Labs Reporting: 200**  
**Issue Date : 10/31/2018**

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
000.02	Urea, As protein, Colorimetric (%)	1	1	0.60000							
001.00	Loss on Drying, Vac 95°C 5 hr (%)	7	7	4.4706	0.45120	4.4877	0.47208	0.22304	10.52%	0.05757	3.19%
001.02	Loss on Drying, Vac on sand (%)	2	2	3.5175	0.41366						
001.03	Loss on Drying, Low temp. methods (%)	5	5	3.8415	0.99826	3.8415	0.99826	0.55804	25.99%	0.04696	3.27%
001.05	Loss on Drying, LECO (%)	2	2	4.6425	0.33588						
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	49	48	4.6344	0.36989	4.6419	0.27207	0.04909	5.86%	0.10422	3.17%
001.08	Loss on Drying, 102°C 16 hr, in meat (%)	1	1	5.4550							
001.99	Loss on Drying, Miscellaneous (%)	22	21	5.3979	2.0030	5.0202	1.1258	0.30710	22.43%	0.18517	3.14%
002.01	Protein, Crude, Auto Kjel-Foss (%)	16	16	24.310	0.26068	24.310	0.29561	0.09238	1.22%	0.18984	2.03%
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	4	3	24.437	0.09982	24.437	0.09982	0.07204	0.41%	0.15237	2.02%
002.03	Protein, Crude, Hach Method (%)	1	1	23.768							
002.04	Protein, Crude, Copper Catalyst (%)	5	4	24.401	0.33745	24.401	0.33745	0.24353	1.38%	0.05750	2.02%
002.05	Protein, Crude, Copper, Boric Acid (%)	36	35	24.349	0.90691	24.390	0.50479	0.10666	2.07%	0.11232	2.02%
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	128	126	24.880	0.43741	24.854	0.34317	0.03821	1.38%	0.21570	2.01%
002.08	Protein, Crude, Cu/Ti (%)	1	1	24.185							
002.11	Protein, Crude, NIR (%)	4	3	23.858	1.2849	23.858	1.2849	0.92730	5.39%	0.07467	2.05%
002.99	Protein, Crude, Miscellaneous (%)	1	1	24.425							
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	6	6	9.9668	6.0993	9.9668	6.9166	3.5296	69.40%	0.15768	2.83%
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	1	1	16.225							
003.06	Fat, Crude, Pet Ether (%)	15	15	8.2640	4.7714	7.3270	3.3096	1.0682	45.17%	0.27140	2.96%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	11	10	10.891	4.3704	9.8880	2.6811	1.0598	27.11%	0.09828	2.83%
003.10	Fat, Crude, Randall, Pet Ether (%)	26	26	6.9573	5.2630	5.0942	1.2595	0.30877	24.72%	0.21833	3.13%
003.11	Fat, Crude, NIR (%)	5	5	21.566	2.8031	21.566	2.8031	1.5670	13.00%	0.13080	2.15%
003.12	Fat, Crude, Hexane Ext (%)	5	4	10.188	5.7560	10.188	5.7560	3.5975	56.50%	0.07600	2.82%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	4	3	5.6068	1.0053	5.6068	1.0053	0.72551	17.93%	0.03347	3.09%
003.14	Fat, Crude, Ankom (%)	39	38	11.792	2.6103	11.357	1.8598	0.37713	16.38%	0.32966	2.77%
003.99	Fat, Crude, Miscellaneous (%)	7	7	15.549	5.6017	16.725	3.2616	1.5410	19.50%	0.16571	2.45%
004.00	Fiber, Crude, Asbestos Free (%)	11	8	0.42775	0.39450	0.35387	0.25005	0.11051	70.66%	0.05660	4.68%
004.03	Fiber, Crude, Fritted Glass (%)	2	2	0.08250	0.00354						
004.06	Fiber, Crude, Fibertec (%)	13	12	0.26839	0.29923	0.21657	0.18352	0.06622	84.74%	0.02847	5.04%
004.07	Fiber, Crude, ANKOM (%)	28	24	0.45831	0.30436	0.44053	0.30408	0.07759	69.03%	0.07797	4.52%
004.11	Fiber, Crude, NIR (%)	1	1	2.2500							

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004.99	Fiber, Crude, Miscellaneous (%)	1	1	0.33000							
005.00	Ash, 2h @ 600°C (%)	92	90	8.4360	0.15047	8.4381	0.11857	0.01562	1.41%	0.06194	2.90%
005.02	Ash, LECO (%)	2	2	4.7608	5.7286						
005.05	Ash, 3h @ 550°C (%)	39	38	8.5354	0.10349	8.5357	0.11429	0.02318	1.34%	0.04612	2.90%
005.11	Ash, NIR (%)	3	3	7.8442	2.3137	7.8442	2.3137	1.6698	29.50%	0.03033	2.93%
005.99	Ash, Miscellaneous (%)	15	14	8.5052	0.50270	8.4556	0.24010	0.08021	2.84%	0.02552	2.90%
006.00	Total Sugars, As sucrose (%)	2	2	28.218	6.0281						
006.99	Total Sugars, Miscellaneous (%)	2	2	19.650	3.6062						
008.02	Fiber, Acid Detergent, Crucible (%)	7	5	0.18800	0.11094	0.18800	0.11094	0.06202	59.01%	0.08800	5.14%
008.05	Fiber, Acid Detergent, Acid Detergent-Hach (%)	1	1	2.5000							
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	14	8	0.36393	0.21228	0.36393	0.24073	0.10639	66.15%	0.12443	4.66%
009.04	Fiber, Neutral Detergent, Neutral Det-No ENZ Pretreat (%)	1		0.00000							
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	3	3	0.25833	0.17178	0.25833	0.17178	0.15183	66.50%	0.13000	4.90%
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	19	17	3.7275	9.0662	0.65170	0.46027	0.13954	70.63%	0.18046	4.27%
010.03	Moisture, Karl-Fischer (%)	2	2	5.1900	0.44548						
010.11	Moisture, NIR (%)	3	3	6.3346	4.9448	6.3346	4.9448	4.3706	78.06%	0.31540	3.03%
010.99	Moisture, Miscellaneous (%)	21	20	5.0747	1.1795	4.9021	0.91709	0.25633	18.71%	0.05676	3.15%
011.01	Loss on Drying, 135°C 2hr (%)	60	59	9.3427	2.6183	9.4040	2.5287	0.41151	26.89%	0.21631	2.85%
011.02	Loss on Drying, 130°C for 2 hours (%)	4	4	8.2188	0.72099	8.2188	0.72099	0.45062	8.77%	0.12250	2.91%
011.99	Loss on Drying, High Temp. Methods Miscellaneous (%)	3	3	8.8533	0.67678	8.8533	0.67678	0.48842	7.64%	0.50667	2.88%
012.00	Starch, Polarimetric (Ewers) (%)	5	5	6.4860	3.6774	6.4860	3.6774	2.0557	56.70%	0.33200	3.02%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	9	6	0.91651	1.0007	0.76881	0.77001	0.39294	100.16%	0.10562	4.16%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	1	1	0.48500							
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	3	3	0.25167	0.14338	0.25167	0.14338	0.10348	56.97%	0.03667	4.92%
012.11	Starch, NIR (%)	1		0.00000							
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	24	23	18.915	1.3062	19.018	0.94499	0.24630	4.97%	0.30310	2.29%
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	22	21	19.544	0.99994	19.657	0.68241	0.18614	3.47%	0.28000	2.26%
013.03	Fat, Base Pretreat, Roese-Gottlieb (%)	9	9	19.560	0.72916	19.560	0.82687	0.34453	4.23%	0.29111	2.26%
013.08	Fat, Base Pretreat, Roese-Gottlieb Modified (%)	2	2	19.677	0.13099						
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	10	10	18.027	1.6231	18.228	1.3163	0.52033	7.22%	0.21189	2.34%
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	8	8	18.835	0.55134	18.835	0.62522	0.27631	3.32%	0.22135	2.30%
013.99	Fat, Acid Pretreat, Pretreatment, Misc (%)	1	1	19.530							
015.41	Aluminum, ICP, Dry ash (mg / kg (ppm))	4	4	34.910	10.396	34.910	10.396	6.4975	29.78%	2.7450	9.37%
015.42	Aluminum, ICP, Open vessel (mg / kg (ppm))	1	1	25.150							
015.43	Aluminum, ICP, Microwave (mg / kg (ppm))	7	7	25.095	4.4934	25.095	5.0955	2.4074	20.30%	1.3670	9.85%
015.52	Aluminum, ICP-MS, Open vessel (mg / kg (ppm))	1	1	29.950							
015.53	Aluminum, ICP-MS, Microwave (mg / kg (ppm))	1	1	29.650							
017.41	Boron, ICP, Dry ash (mg / kg (ppm))	4	4	2.7250	1.4237	2.7250	1.4237	0.88981	52.25%	0.25500	13.76%
017.42	Boron, ICP, Open vessel (mg / kg (ppm))	5	5	3.1043	0.84802	3.1043	0.84802	0.47406	27.32%	0.23460	13.49%
017.43	Boron, ICP, Microwave (mg / kg (ppm))	7	6	3.0350	0.39037	3.0350	0.44268	0.22590	14.59%	0.39333	13.54%

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019.00	Calcium, Ox-Mn04 Vol. (%)	9	9	0.85544	0.04755	0.85332	0.04902	0.02042	5.74%	0.03156	4.10%
019.02	Calcium, Hach Method (%)	1	1	1.1245							
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	0.91740							
019.08	Calcium, EDTA (%)	14	13	0.92024	0.11243	0.89285	0.05572	0.01932	6.24%	0.00912	4.07%
019.09	Calcium, Ion-selective electrode (%)	1	1	0.98350							
019.31	Calcium, AAS, Dry ash (%)	26	25	0.86218	0.07715	0.86681	0.05896	0.01474	6.80%	0.01918	4.09%
019.32	Calcium, AAS, Open vessel (%)	1	1	0.88000							
019.33	Calcium, AAS, Microwave (%)	1	1	0.91800							
019.41	Calcium, ICP, Dry ash (%)	27	27	0.86732	0.04195	0.86757	0.04701	0.01131	5.42%	0.01546	4.09%
019.42	Calcium, ICP, Open vessel (%)	24	23	0.89540	0.06535	0.89386	0.07060	0.01840	7.90%	0.01884	4.07%
019.43	Calcium, ICP, Microwave (%)	33	32	0.87228	0.05810	0.86692	0.04357	0.00963	5.03%	0.02126	4.09%
019.51	Calcium, ICP-MS, Dry ash (%)	1	1	0.93000							
019.52	Calcium, ICP-MS, Open vessel (%)	3	3	0.94248	0.04650	0.94248	0.04650	0.03356	4.93%	0.02550	4.04%
019.53	Calcium, ICP-MS, Microwave (%)	1	1	0.90500							
019.99	Calcium, Miscellaneous (%)	6	6	0.89750	0.05355	0.89750	0.06072	0.03099	6.77%	0.02167	4.07%
021.31	Cobalt, AAS, Dry ash (mg / kg (ppm))	1		1.0000							
021.41	Cobalt, ICP, Dry ash (mg / kg (ppm))	3	3	1.4365	2.3241	1.4365	2.3241			0.00100	15.15%
021.42	Cobalt, ICP, Open vessel (mg / kg (ppm))	2	2	0.16475	0.00672						
021.43	Cobalt, ICP, Microwave (mg / kg (ppm))	2	1	0.13500							
021.52	Cobalt, ICP-MS, Open vessel (mg / kg (ppm))	2	2	0.09725	0.03147						
021.53	Cobalt, ICP-MS, Microwave (mg / kg (ppm))	3	3	0.07398	0.00556	0.07398	0.00556	0.00491	7.52%	0.00730	22.00%
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	12	12	12.296	6.4686	10.850	2.5040	0.90354	23.08%	0.90028	11.17%
022.32	Copper, AAS, Open vessel (mg / kg (ppm))	2	2	12.769	3.6508						
022.33	Copper, AAS, Microwave (mg / kg (ppm))	2	2	10.570	1.2297						
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	22	22	11.753	3.7535	11.501	2.4732	0.65910	21.50%	1.9909	11.08%
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	21	21	11.366	4.3011	10.722	3.2079	0.87503	29.92%	1.8748	11.19%
022.43	Copper, ICP, Microwave (mg / kg (ppm))	23	23	10.774	3.4573	10.849	3.7506	0.97757	34.57%	1.5978	11.17%
022.51	Copper, ICP-MS, Dry ash (mg / kg (ppm))	1	1	6.0450							
022.52	Copper, ICP-MS, Open vessel (mg / kg (ppm))	2	2	14.483	6.7918						
022.99	Copper, Miscellaneous (mg / kg (ppm))	3	3	9.9150	3.7582	9.9150	3.7582	2.7122	37.90%	1.5967	11.33%
023.01	Fluorine, Ion Sel Elect (mg / kg (ppm))	1	1	1.8850							
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	14	14	115.95	20.066	113.96	17.403	5.8139	15.27%	6.2324	7.84%
025.32	Iron, AAS, Open vessel (mg / kg (ppm))	1	1	127.56							
025.34	Iron, AAS, Dry ash (mg / kg (ppm))	1	1	124.60							
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	23	23	113.15	15.258	112.99	16.591	4.3242	14.68%	6.9693	7.85%
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	16	16	111.18	11.523	111.78	10.729	3.3528	9.60%	11.437	7.87%
025.43	Iron, ICP, Microwave (mg / kg (ppm))	23	22	108.17	12.910	108.23	12.036	3.2075	11.12%	8.2215	7.90%
025.53	Iron, ICP-MS, Microwave (mg / kg (ppm))	1	1	106.25							
025.99	Iron, Miscellaneous (mg / kg (ppm))	2	2	109.75	8.1317						
027.31	Magnesium, AAS, Dry ash (%)	14	14	0.11060	0.00888	0.11183	0.00644	0.00215	5.76%	0.00262	5.56%

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027.32	Magnesium, AAS, Open vessel (%)	1	1	0.12750							
027.33	Magnesium, AAS, Microwave (%)	1	1	0.10200							
027.41	Magnesium, ICP, Dry ash (%)	25	25	0.11326	0.00577	0.11328	0.00596	0.00149	5.26%	0.00262	5.55%
027.42	Magnesium, ICP, Open vessel (%)	22	21	0.11678	0.00969	0.11653	0.01031	0.00281	8.85%	0.00477	5.53%
027.43	Magnesium, ICP, Microwave (%)	24	23	0.11139	0.00899	0.11093	0.00900	0.00235	8.12%	0.00267	5.57%
027.52	Magnesium, ICP-MS, Open vessel (%)	2	2	0.11735	0.00092						
027.53	Magnesium, ICP-MS, Microwave (%)	1	1	0.11950							
027.99	Magnesium, Miscellaneous (%)	2	2	0.11500	0.00707						
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	12	11	40.602	6.7419	41.056	6.5504	2.4688	15.95%	1.5522	9.15%
028.32	Manganese, AAS, Open vessel (mg / kg (ppm))	2	2	49.172	7.8722						
028.33	Manganese, AAS, Microwave (mg / kg (ppm))	1	1	35.561							
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	21	20	43.547	8.0922	43.357	6.5295	1.8251	15.06%	3.0064	9.07%
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	19	18	46.570	8.2943	45.689	5.4740	1.6128	11.98%	3.3172	9.00%
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	21	21	41.808	11.321	43.255	7.2688	1.9827	16.80%	3.7466	9.07%
028.52	Manganese, ICP-MS, Open vessel (mg / kg (ppm))	1	1	46.850							
028.53	Manganese, ICP-MS, Microwave (mg / kg (ppm))	2	2	39.263	0.37123						
028.99	Manganese, Miscellaneous (mg / kg (ppm))	2	2	47.000	8.4853						
031.00	Phosphorus, Vol (%)	1	1	0.76000							
031.01	Phosphorus, Photometric (%)	48	47	0.71363	0.07751	0.72360	0.03284	0.00599	4.54%	0.01141	4.20%
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%)	2	2	0.75250	0.02475						
031.03	Phosphorus, Autoanalyzer (%)	3	3	0.71855	0.04207	0.71855	0.04207	0.03718	5.85%	0.00317	4.20%
031.06	Phosphorus, Hach Method (%)	1	1	0.81500							
031.41	Phosphorus, ICP, Dry ash (%)	26	26	0.72451	0.03947	0.72229	0.03687	0.00904	5.10%	0.01461	4.20%
031.42	Phosphorus, ICP, Open vessel (%)	23	22	0.73866	0.03811	0.73743	0.04029	0.01074	5.46%	0.02105	4.19%
031.43	Phosphorus, ICP, Microwave (%)	29	28	0.74373	0.03978	0.74285	0.04321	0.01021	5.82%	0.01364	4.18%
031.51	Phosphorus, ICP-MS, Dry ash (%)	1	1	0.74500							
031.52	Phosphorus, ICP-MS, Open vessel (%)	2	2	0.74298	0.03461						
031.53	Phosphorus, ICP-MS, Microwave (%)	1	1	0.82400							
031.99	Phosphorus, Miscellaneous (%)	5	5	0.70700	0.05179	0.70700	0.05179	0.02895	7.33%	0.01000	4.21%
032.02	Potassium, Flame Emission (%)	1	1	2.1800							
032.08	Potassium, Ion-selective electrode (%)	1	1	2.3505							
032.31	Potassium, AAS, Dry ash (%)	14	14	2.1689	0.11434	2.1591	0.09802	0.03275	4.54%	0.05038	3.56%
032.32	Potassium, AAS, Open vessel (%)	1	1	2.2100							
032.41	Potassium, ICP, Dry ash (%)	25	24	2.0397	0.22455	2.0763	0.11165	0.02849	5.38%	0.03500	3.58%
032.42	Potassium, ICP, Open vessel (%)	21	21	2.1525	0.12433	2.1531	0.13964	0.03809	6.49%	0.07860	3.56%
032.43	Potassium, ICP, Microwave (%)	23	22	2.0498	0.23509	2.0755	0.11817	0.03149	5.69%	0.04536	3.58%
032.51	Potassium, ICP-MS, Dry ash (%)	1	1	2.1600							
032.52	Potassium, ICP-MS, Open vessel (%)	2	2	2.0108	0.11904						
032.53	Potassium, ICP-MS, Microwave (%)	1	1	2.1900							
032.99	Potassium, Miscellaneous (%)	3	3	2.0900	0.02598	2.0900	0.02598	0.02296	1.24%	0.04667	3.58%

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033.00	Salt as chloride, Sol Cl (%)	19	18	2.0574	0.32681	2.0163	0.15231	0.04487	7.55%	0.02795	3.60%
033.01	Salt as chloride, Poten Cl (%)	24	24	2.0183	0.04866	2.0168	0.03691	0.00942	1.83%	0.02630	3.60%
033.03	Salt as chloride, Quantab (%)	3	3	1.8333	0.13013	1.8333	0.13013	0.11502	7.10%	0.02667	3.65%
033.05	Salt as chloride, Ion Sel Electrode (%)	3	3	1.9983	0.01041	1.9983	0.01041	0.00751	0.52%	0.01000	3.60%
033.99	Salt, Miscellaneous (%)	7	6	2.0088	0.17390	2.0108	0.19254	0.09826	9.58%	0.04867	3.60%
034.01	Selenium, Fluor (mg / kg (ppm))	1	1	0.57650							
034.04	Selenium, AA, Hydride (mg / kg (ppm))	5	5	0.51620	0.07483	0.51620	0.07483	0.04183	14.50%	0.03320	17.67%
034.31	Selenium, AAS, Dry ash (mg / kg (ppm))	1	1	0.65500							
034.41	Selenium, ICP, Dry ash (mg / kg (ppm))	1	1	0.52700							
034.42	Selenium, ICP, Open vessel (mg / kg (ppm))	1	1	1.5000							
034.43	Selenium, ICP, Microwave (mg / kg (ppm))	2	2	1.1300	0.65054						
034.52	Selenium, ICP-MS, Open vessel (mg / kg (ppm))	3	3	0.62983	0.07239	0.62983	0.07239	0.05224	11.49%	0.04700	17.15%
034.53	Selenium, ICP-MS, Microwave (mg / kg (ppm))	6	6	0.69598	0.16909	0.69346	0.18587	0.09485	26.80%	0.06917	16.90%
034.99	Selenium, Miscellaneous (mg / kg (ppm))	1	1	3.2600							
035.01	Sodium, Ion-selective electrode (%)	2	2	0.75650	0.00424						
035.05	Sodium, Flame Emission (%)	4	3	0.80000	0.03279	0.80000	0.03279	0.02366	4.10%	0.02000	4.14%
035.31	Sodium, AAS, Dry ash (%)	20	20	0.74173	0.04764	0.73986	0.04953	0.01384	6.69%	0.01936	4.19%
035.32	Sodium, AAS, Open vessel (%)	1	1	0.76450							
035.41	Sodium, ICP, Dry ash (%)	25	24	0.72242	0.04490	0.72680	0.02780	0.00709	3.83%	0.02016	4.20%
035.42	Sodium, ICP, Open vessel (%)	18	18	0.72274	0.03854	0.71981	0.03705	0.01092	5.15%	0.02661	4.20%
035.43	Sodium, ICP, Microwave (%)	26	25	0.72348	0.04544	0.72138	0.04080	0.01020	5.66%	0.01738	4.20%
035.51	Sodium, ICP-MS, Dry ash (%)	1	1	0.79000							
035.52	Sodium, ICP-MS, Open vessel (%)	2	2	0.75240	0.01994						
035.53	Sodium, ICP-MS, Microwave (%)	1	1	0.79950							
035.99	Sodium, Miscellaneous (%)	3	3	0.76670	0.05113	0.76670	0.05113	0.03690	6.67%	0.02707	4.16%
036.04	Sulfur, LECO (%)	4	3	0.39568	0.05572	0.39568	0.05572	0.04021	14.08%	0.01037	4.60%
036.42	Sulfur, ICP, Open vessel (%)	20	19	0.34901	0.02985	0.35050	0.02898	0.00831	8.27%	0.00985	4.68%
036.43	Sulfur, ICP, Microwave (%)	14	14	0.35140	0.02066	0.35006	0.02040	0.00682	5.83%	0.00922	4.68%
036.52	Sulfur, ICP-MS, Open vessel (%)	2	2	0.32373	0.04777						
036.53	Sulfur, ICP-MS, Microwave (%)	1	1	0.35800							
036.99	Sulfur, Miscellaneous (%)	1	1	0.33500							
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	13	12	65.707	64.439	52.367	7.8434	2.8302	14.98%	1.6926	8.82%
037.32	Zinc, AAS, Open vessel (mg / kg (ppm))	2	2	64.638	4.8967						
037.33	Zinc, AAS, Microwave (mg / kg (ppm))	2	2	108.29	73.123						
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	20	19	62.222	21.045	58.081	12.230	3.5072	21.06%	8.8336	8.68%
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	18	17	53.194	5.3060	52.746	4.7988	1.4549	9.10%	4.4926	8.81%
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	27	26	49.917	7.0171	49.746	6.9469	1.7030	13.96%	3.5032	8.89%
037.52	Zinc, ICP-MS, Open vessel (mg / kg (ppm))	1	1	55.120							
037.53	Zinc, ICP-MS, Microwave (mg / kg (ppm))	1	1	51.000							
037.99	Zinc, Miscellaneous (mg / kg (ppm))	2	2	60.610	12.176						

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038.41	Molybdenum, ICP, Dry ash (mg / kg (ppm))	2	2	0.65175	0.13895						
038.42	Molybdenum, ICP, Open vessel (mg / kg (ppm))	4	4	0.56663	0.32554	0.56663	0.32554	0.20346	57.45%	0.08825	17.42%
038.43	Molybdenum, ICP, Microwave (mg / kg (ppm))	7	7	0.84625	0.54246	0.72403	0.29027	0.13714	40.09%	0.26810	16.79%
038.52	Molybdenum, ICP-MS, Open vessel (mg / kg (ppm))	2	2	0.64975	0.04914						
038.53	Molybdenum, ICP-MS, Microwave (mg / kg (ppm))	3	3	0.66087	0.10407	0.66087	0.10407	0.07511	15.75%	0.01340	17.03%
040.42	Barium, ICP, Open vessel (mg / kg (ppm))	1	1	0.28500							
040.53	Barium, ICP-MS, Microwave (mg / kg (ppm))	1	1	0.32890							
042.00	Chloride, Titrimetric (%)	1	1	1.2300							
042.99	Chloride, Miscellaneous (%)	1	1	1.2000							
104.00	Riboflavin, Fluorometric (mg / kg (ppm))	1	1	20.350							
104.03	Riboflavin, LC (mg / kg (ppm))	1	1	7.3150							
105.00	Thiamine, LC (mg / kg (ppm))	1	1	9.1800							
106.00	Vitamin A, Color (KU / kg)	1	1	47.800							
106.01	Vitamin A, UV (KU / kg)	1	1	50.200							
106.02	Vitamin A, LC (KU / kg)	21	21	46.061	11.311	46.480	9.2028	2.5103	19.80%	4.1387	
108.01	Vitamin D3, LC, AOAC (KU / kg)	1	1	2.0000							
108.02	Vitamin D3, LC (KU / kg)	5	5	12.218	1.5508	12.218	1.5508	0.86692	12.69%	0.60400	
109.02	Vitamin E, LC (IU / kg)	14	14	202.36	85.993	213.27	72.169	24.110	33.84%	7.1793	
109.99	Vitamin E, Miscellaneous (IU / kg)	1	1	193.00							
111.01	Vitamin C, Ascorbic Acid, LC (mkg/kg (ppm))	5	4	159.73	110.76	159.73	110.76	79.934	69.34%	14.978	7.45%
111.98	Vitamin C, Ascorbic Acid, Miscellaneous (mkg/kg (ppm))	1	1	144.30							
118.99	Peroxide value, Miscellaneous (meq/kg)	1	1	2.2900							
120.00	Alanine, Post-col Ninhydrin Der (%)	23	22	1.2114	0.07050	1.2008	0.04409	0.01175	3.67%	0.02025	3.89%
120.02	Alanine, Post-col OPA Der (%)	1	1	1.2450							
120.05	Alanine, Pre-col AQC Der (%)	8	8	1.2066	0.10162	1.2007	0.10143	0.04483	8.45%	0.02850	3.89%
121.00	Arginine, Post-col Ninhydrin Der (%)	23	23	0.62710	0.03467	0.62558	0.03162	0.00824	5.05%	0.01384	4.29%
121.02	Arginine, Post-col OPA Der (%)	1	1	0.64150							
121.05	Arginine, Pre-col AQC Der (%)	8	8	0.59838	0.06714	0.59897	0.07481	0.03306	12.49%	0.01950	4.32%
122.00	Aspartic, Post-col Ninhydrin Der (%)	23	22	2.5528	0.08239	2.5556	0.08424	0.02245	3.30%	0.03643	3.47%
122.02	Aspartic, Post-col OPA Der (%)	1	1	2.6120							
122.05	Aspartic, Pre-col AQC Der (%)	8	7	2.5724	0.25608	2.5802	0.24157	0.11413	9.36%	0.04800	3.47%
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin (%)	23	22	0.52331	0.11509	0.54586	0.04315	0.01150	7.90%	0.01267	4.38%
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.59600							
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	8	8	0.51328	0.07860	0.51328	0.08913	0.03939	17.37%	0.01620	4.42%
125.00	Glutamic, Post-col Ninhydrin Der (%)	23	23	4.2964	0.18630	4.3045	0.17779	0.04634	4.13%	0.07549	3.21%
125.02	Glutamic, Post-col OPA Der (%)	1	1	4.2635							
125.05	Glutamic, Pre-col AQC Der (%)	8	8	4.4938	0.72554	4.3665	0.48692	0.21519	11.15%	0.11200	3.20%
126.00	Glycine, Post-col Ninhydrin Der (%)	23	22	0.48202	0.02158	0.48037	0.02007	0.00535	4.18%	0.00874	4.47%
126.02	Glycine, Post-col OPA Der (%)	1	1	0.46750							
126.05	Glycine, Pre-col AQC Der (%)	8	8	0.50900	0.03669	0.50486	0.03134	0.01385	6.21%	0.02925	4.43%

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127.00	Histidine, Post-col Ninhydrin Der (%)	23	22	0.45996	0.03085	0.46275	0.02370	0.00632	5.12%	0.01104	4.49%
127.02	Histidine, Post-col OPA Der (%)	1	1	0.45400							
127.05	Histidine, Pre-col AQC Der (%)	8	8	0.44400	0.06825	0.45901	0.03594	0.01588	7.83%	0.01500	4.50%
128.00	Isoleucine, Post-col Ninhydrin Der (%)	23	23	1.4803	0.10687	1.4811	0.05871	0.01530	3.96%	0.02145	3.77%
128.02	Isoleucine, Post-col OPA Der (%)	1	1	1.5240							
128.05	Isoleucine, Pre-col AQC Der (%)	8	7	1.3472	0.38597	1.4515	0.15097	0.07133	10.40%	0.02157	3.78%
129.00	Leucine, Post-col Ninhydrin Der (%)	23	22	2.5304	0.09122	2.5232	0.08164	0.02176	3.24%	0.02849	3.48%
129.02	Leucine, Post-col OPA Der (%)	1	1	2.5500							
129.05	Leucine, Pre-col AQC Der (%)	8	8	2.5918	0.15090	2.5746	0.12833	0.05671	4.98%	0.04688	3.47%
130.00	L-Lysine, Post-col Ninhydrin Der (%)	24	24	2.1762	0.15055	2.1694	0.13941	0.03557	6.43%	0.07305	3.56%
130.02	L-Lysine, Post-col OPA Der (%)	1	1	2.2060							
130.05	L-Lysine, Pre-col AQC Der (%)	9	8	2.1858	0.11006	2.1858	0.12481	0.05516	5.71%	0.05525	3.56%
130.99	L-Lysine, Miscellaneous (%)	1	1	2.1500							
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	24	23	0.45127	0.02794	0.45220	0.02834	0.00739	6.27%	0.01128	4.51%
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.46900							
131.05	Methionine, PAO Pre-col AQC Der (%)	9	8	0.48949	0.10812	0.47098	0.07397	0.03269	15.70%	0.00728	4.48%
131.99	Methionine, Miscellaneous (%)	1	1	0.47500							
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	23	22	0.82668	0.04217	0.82620	0.04682	0.01248	5.67%	0.01095	4.12%
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.80900							
132.05	Phenylalanine, Pre-col AQC Der (%)	8	8	0.81319	0.03881	0.81155	0.04024	0.01779	4.96%	0.02263	4.13%
133.00	Proline, Post-col Ninhydrin Der (%)	23	22	1.4872	0.13147	1.4967	0.10285	0.02741	6.87%	0.03721	3.76%
133.05	Proline, Pre-col AQC Der (%)	8	8	1.5861	0.10123	1.5857	0.11378	0.05028	7.18%	0.04575	3.73%
134.00	Serine, Post-col Ninhydrin Der (%)	23	22	1.2715	0.06054	1.2657	0.05309	0.01415	4.19%	0.02063	3.86%
134.02	Serine, Post-col OPA Der (%)	1	1	1.1250							
134.05	Serine, Pre-col AQC Der (%)	8	7	1.2673	0.06653	1.2710	0.06683	0.03157	5.26%	0.00771	3.86%
135.00	Threonine, Post-col Ninhydrin Der (%)	23	22	1.6331	0.07622	1.6297	0.07835	0.02088	4.81%	0.02488	3.72%
135.02	Threonine, Post-col OPA Der (%)	1	1	1.6945							
135.05	Threonine, Pre-col AQC Der (%)	9	9	1.6461	0.08285	1.6443	0.09011	0.03755	5.48%	0.02944	3.71%
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	6	6	0.36742	0.04019	0.35817	0.02189	0.01117	6.11%	0.01190	4.67%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	3	3	0.44700	0.00954	0.44700	0.00954	0.00688	2.13%	0.00333	4.52%
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.42150							
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	5	5	0.46134	0.02973	0.46134	0.02973	0.01662	6.44%	0.01136	4.49%
136.05	Tryptophan, Pre-col AQC Der (%)	1	1	0.41100							
136.99	Tryptophan, Miscellaneous (%)	1	1	0.47500							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	16	16	0.66312	0.08764	0.66729	0.09026	0.02821	13.53%	0.02110	4.25%
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.67350							
137.05	Tyrosine, Pre-col AQC Der (%)	8	8	0.74263	0.11508	0.72234	0.07693	0.03400	10.65%	0.02850	4.20%
138.00	Valine, Post-col Ninhydrin Der (%)	23	23	1.4119	0.10883	1.4227	0.07465	0.01946	5.25%	0.01953	3.79%
138.02	Valine, Post-col OPA Der (%)	1	1	1.4990							
138.05	Valine, Pre-col AQC Der (%)	8	7	1.4208	0.06796	1.4249	0.06733	0.03181	4.73%	0.01529	3.79%

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139.00	Taurine, Post-col Ninhydrin Der (%)	5	4	0.07411	0.04970	0.07411	0.04970	0.03587	67.06%	0.00228	5.92%
139.02	Taurine, Post-col OPA Der (%)	1	1	0.04000							
139.03	Taurine, Pre-col Dansyl Cl Der (%)	1	1	0.06000							
139.05	Taurine, Pre-col AQC Der (%)	2	2	0.19525	0.22451						
160.99	Fructose, Miscellaneous (%)	5									
161.99	Galactose, Miscellaneous (%)	1	1	0.22650							
162.99	Glucose, Miscellaneous (%)	6	3	0.45000	0.31225	0.45000	0.31225	0.22535	69.39%	0.10000	4.51%
163.99	Lactose, Miscellaneous (%)	21	20	35.450	4.9766	36.002	3.8097	1.0649	10.58%	0.58010	1.67%
164.99	Maltose, Miscellaneous (%)	3	1								
165.99	Sucrose, Miscellaneous (%)	4									
166.99	Raffinose, Miscellaneous (%)	2		0.00000							
167.99	Stachyose, Miscellaneous (%)	2		0.00000							
323.99	Diflubenzuron, Miscellaneous (mg/kg (ppm))	2	2	3.9350	1.0394						
361.02	Lasalocid Sodium, LC (mg/kg (ppm))	5	4	30.520	2.0757	30.520	2.0757	1.2973	6.80%	1.2661	9.56%
361.03	Lasalocid Sodium, LC (UV or FL) (mg/kg (ppm))	9	9	28.924	2.7339	28.617	2.3293	0.97054	8.14%	2.3922	9.66%
361.05	Lasalocid Sodium, LC-MS/MS (mg/kg (ppm))	4	4	25.881	6.4165	25.881	6.4165	4.0103	24.79%	1.6375	9.80%
400.01	Water Activity, Aqualab chilled mirror (Units)	6	6	0.33204	0.01750	0.33204	0.01984	0.01013	5.98%	0.00412	
400.99	Water Activity, Miscellaneous (Units)	2	2	0.31625	0.02227						
412.01	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	0.27000							
516.00	Arsenic, Total, AA, Hydride (mg / kg (ppm))	1		0.05000							
516.43	Arsenic, Total, ICP, Microwave (mg / kg (ppm))	1	1	0.36965							
516.53	Arsenic, Total, ICP-MS, Microwave (mg / kg (ppm))	4	4	0.03571	0.03240	0.03571	0.03240	0.02025	90.73%	0.00508	22.00%
518.41	Cadmium, ICP, Dry ash (mg / kg (ppm))	1		0.05000							
518.53	Cadmium, ICP-MS, Microwave (mg / kg (ppm))	3	2	0.00483	0.00025	0.00483	0.00025			0.00105	22.00%
520.41	Chromium, ICP, Dry ash (mg / kg (ppm))	1	1	0.36050							
520.42	Chromium, ICP, Open vessel (mg / kg (ppm))	2	2	0.23900	0.01273						
520.43	Chromium, ICP, Microwave (mg / kg (ppm))	1	1	0.09500							
520.52	Chromium, ICP-MS, Open vessel (mg / kg (ppm))	1	1	0.12600							
520.53	Chromium, ICP-MS, Microwave (mg / kg (ppm))	1	1	0.09150							
526.41	Lead, ICP, Dry ash (mg / kg (ppm))	1		0.05000							
526.53	Lead, ICP-MS, Microwave (mg / kg (ppm))	4	4	0.03436	0.00207	0.03436	0.00207	0.00129	6.02%	0.00418	22.00%
529.99	Mercury, Miscellaneous (µg / kg (ppb))	1	1	0.96350							
539.41	Nickel, ICP, Dry ash (mg / kg (ppm))	1	1	0.07450							
539.52	Nickel, ICP-MS, Open vessel (mg / kg (ppm))	1	1	0.12250							
539.53	Nickel, ICP-MS, Microwave (mg / kg (ppm))	1	1	0.08530							
702.00	Butyric Acid (4:0), Miscellaneous GC (%)	1	1	0.10050							
704.00	Caproic Acid (6:0), Miscellaneous GC (%)	1	1	0.05250							
706.01	Caprylic acid (8:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.23650							
708.01	Capric acid (10:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.22600							
710.01	Lauric Acid (12:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.89600							



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710.99	Lauric Acid (12:0), Miscellaneous (% (w/w))	3	3	0.52067	0.05029	0.52067	0.05029	0.03629	9.66%	0.01347	
714.01	Myristic Acid (14:0 ), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.91750							
714.99	Myristic Acid (14:0 ), Miscellaneous (% (w/w))	2	2	0.57213	0.01008						
716.01	Palmitic Acid (16:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	4.0400							
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	2	2	4.3475	0.14489						
718.01	Palmitoleic Acid (9c-16:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.31800							
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	3	3	0.32960	0.05633	0.32960	0.05633	0.04065	17.09%	0.00860	
722.01	Stearic Acid (18:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	3.2350							
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	1	1	2.3152							
724.01	Oleic Acid (9c-18:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	5.7800							
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	2	2	6.0279	0.40001						
726.01	Linoleic Acid (9c,12c-18:2), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	2.7600							
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	3	3	2.7969	0.09091	2.7969	0.09091	0.06561	3.25%	0.08820	
728.01	alpha-Linolenic Acid (9c,12c,15c-18:3), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.18050							
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	3	3	0.14938	0.00882	0.14938	0.00882	0.00780	5.90%	0.00377	
730.01	Arachidic Acid (20:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.07200							
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	1	1	0.03675							
732.01	Gondoic Acid (11c-20:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.13350							
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	1	1	0.12395							
736.01	Arachidonic Acid (5c,8c,11c,14c-20:4), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.04700							
736.99	Arachidonic Acid (5c,8c,11c,14c-20:4), Miscellaneous (% (w/w))	1	1	0.05300							
738.01	Mead Acid (11c,14c,17c-20:3), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.05600							
740.01	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.00000							
740.99	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Miscellaneous (% (w/w))	2	2	0.00000							
742.99	Behenic Acid (22:0), Miscellaneous (% (w/w))	2	2	0.02275	0.00318						
744.01	Erucic Acid (13c-22:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.00000							
744.99	Erucic Acid (13c-22:1), Miscellaneous (% (w/w))	1	1	0.00600							
746.01	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.07100							
746.99	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (% (w/w))	2	2	0.01095	0.00064						
748.99	Lignoceric Acid (24:0), Miscellaneous (% (w/w))	1	1	0.01575							
750.01	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.00000							
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (% (w/w))	2	2	0.00000							
752.01	Nervonic Acid (24:1) isomers, Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.00000							
752.99	Nervonic Acid (24:1) isomers, Miscellaneous (% (w/w))	1	1	0.00500							
754.02	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Direct Methylation by Acid-F	1	1	0.17000							
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (% (w/w))	2	2	0.17500	0.00707						
756.01	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	2.6600							
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (% (w/w))	2	2	2.8950	0.13435						
758.99	Total Saturated Fatty Acids, Miscellaneous (% (w/w))	1	1	8.0600							
762.99	Total Monounsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	6.6850							

**Test Material Code # 201829**

**Issue Date : 10/31/2018**

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
766.99	Total Polyunsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	3.0100							
770.99	Total Fat (equivalent to NLEA), Miscellaneous (% (w/w))	1	1	18.745							
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	2	2	17.821	0.09712						

Notes: Robust statistics not used if < 6 labs reporting, in this case means and SD's may be reported based on Raw Data with obvious blunders removed.

Animal Feed Scheme

**Method Precision Report**

# Methods Reported: 92

Milk Replacer

# Labs Reporting: 200

Test Material Code # 201829

Issue Date : 10/31/2018

Method Code	Analyte and Method	Total # Labs Submitting	# Labs used in Precision Calcs	Precision Mean	Precision SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %rSD	Reproducibility %RSD	sR/sr
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	49	44	4.6344	0.36989	0.30430	0.08013	0.31468	6.56%	1.728%	6.79%	3.9271
001.99	Loss on Drying, Miscellaneous (%)	22	20	5.3979	2.0030	1.4472	0.14073	1.4541	28.44%	2.766%	28.58%	10.333
002.01	Protein, Crude, Auto Kjel-Foss (%)	16	15	24.310	0.26068	0.24095	0.15088	0.28429	0.99%	0.620%	1.17%	1.8842
002.05	Protein, Crude, Copper, Boric Acid (%)	36	33	24.349	0.90691	0.61600	0.09162	0.62278	2.52%	0.375%	2.55%	6.7970
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	128	121	24.880	0.43741	0.29951	0.19686	0.35841	1.20%	0.791%	1.44%	1.8207
003.06	Fat, Crude, Pet Ether (%)	15	14	8.2640	4.7714	4.0772	0.26057	4.0855	53.88%	3.444%	53.99%	15.679
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	11	9	10.891	4.3704	4.4436	0.05501	4.4439	39.38%	0.487%	39.38%	80.789
003.10	Fat, Crude, Randall, Pet Ether (%)	26	24	6.9573	5.2630	4.1342	0.19298	4.1387	68.66%	3.205%	68.74%	21.446
003.14	Fat, Crude, Ankom (%)	39	35	11.792	2.6103	2.2960	0.27754	2.3127	19.82%	2.396%	19.97%	8.3328
004.06	Fiber, Crude, Fibertec (%)	13	10	0.26839	0.29923	0.14879	0.02490	0.15086	80.00%	13.387%	81.11%	6.0587
004.07	Fiber, Crude, ANKOM (%)	28	24	0.45831	0.30436	0.29949	0.07666	0.30915	65.35%	16.726%	67.45%	4.0328
005.00	Ash, 2h @ 600°C (%)	92	84	8.4360	0.15047	0.11112	0.05258	0.12294	1.32%	0.623%	1.46%	2.3379
005.05	Ash, 3h @ 550°C (%)	39	37	8.5354	0.10349	0.09733	0.04018	0.10530	1.14%	0.471%	1.23%	2.6209
005.99	Ash, Miscellaneous (%)	15	13	8.5052	0.50270	0.26997	0.02623	0.27124	3.22%	0.313%	3.23%	10.340
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	14	8	0.36393	0.21228	0.19914	0.10399	0.22465	54.72%	28.575%	61.73%	2.1603
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	19	15	3.7275	9.0662	4.8232	0.08690	4.8240	255.08%	4.596%	255.13%	55.511
010.99	Moisture, Miscellaneous (%)	21	18	5.0747	1.1795	0.98638	0.04502	0.98740	19.86%	0.906%	19.88%	21.930
011.01	Loss on Drying, 135°C 2hr (%)	60	57	9.3427	2.6183	2.5750	0.19498	2.5823	27.88%	2.111%	27.96%	13.244
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	24	20	18.915	1.3062	0.68082	0.18983	0.70679	3.57%	0.994%	3.70%	3.7233
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	22	18	19.544	0.99994	0.59906	0.16892	0.62242	3.03%	0.854%	3.15%	3.6847
013.03	Fat, Base Pretreat, Roese-Gottlieb (%)	9	8	19.560	0.72916	0.61118	0.17869	0.63677	3.15%	0.920%	3.28%	3.5635
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	10	8	18.027	1.6231	0.72486	0.13646	0.73759	3.88%	0.730%	3.95%	5.4051
013.13	Fat, Acid Pretreat, Ankom-Acid Hydrolysis (%)	8	8	18.835	0.55134	0.53504	0.18817	0.56717	2.84%	0.999%	3.01%	3.0142
019.00	Calcium, Ox-Mn04 Vol. (%)	9	9	0.85544	0.04755	0.04198	0.03159	0.05254	4.91%	3.693%	6.14%	1.6631
019.08	Calcium, EDTA (%)	14	12	0.92024	0.11243	0.07764	0.01039	0.07833	8.66%	1.158%	8.73%	7.5415
019.31	Calcium, AAS, Dry ash (%)	26	23	0.86218	0.07715	0.05847	0.01629	0.06069	6.69%	1.864%	6.95%	3.7262
019.41	Calcium, ICP, Dry ash (%)	27	27	0.86732	0.04195	0.04055	0.01522	0.04331	4.68%	1.755%	4.99%	2.8456
019.42	Calcium, ICP, Open vessel (%)	24	22	0.89540	0.06535	0.06469	0.01502	0.06641	7.25%	1.683%	7.44%	4.4205
019.43	Calcium, ICP, Microwave (%)	33	30	0.87228	0.05810	0.03676	0.02064	0.04215	4.26%	2.390%	4.88%	2.0425
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	12	11	12.296	6.4686	1.8193	1.0143	2.0830	17.31%	9.653%	19.82%	2.0535
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	22	20	11.753	3.7535	3.2399	1.3808	3.5219	28.76%	12.255%	31.26%	2.5507
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	21	19	11.366	4.3011	3.2983	1.1752	3.5014	31.48%	11.216%	33.42%	2.9795
022.43	Copper, ICP, Microwave (mg / kg (ppm))	23	22	10.774	3.4573	3.4047	1.3596	3.6662	31.65%	12.637%	34.07%	2.6965
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	14	13	115.95	20.066	13.334	5.6879	14.497	11.91%	5.081%	12.95%	2.5487
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	23	22	113.15	15.258	15.124	5.4463	16.074	13.35%	4.808%	14.19%	2.9514

Method Code	Analyte and Method	Total # Labs Submitting	# Labs used in Precision Calcs	Precision Mean	Precision SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	16	15	111.18	11.523	9.3021	9.2998	13.154	8.43%	8.430%	11.92%	1.4144
025.43	Iron, ICP, Microwave (mg / kg (ppm))	23	21	108.17	12.910	12.421	6.4249	13.984	11.49%	5.942%	12.93%	2.1766
027.31	Magnesium, AAS, Dry ash (%)	14	13	0.11060	0.00888	0.00473	0.00289	0.00554	4.20%	2.569%	4.92%	1.9166
027.41	Magnesium, ICP, Dry ash (%)	25	25	0.11326	0.00577	0.00527	0.00331	0.00622	4.65%	2.924%	5.50%	1.8793
027.42	Magnesium, ICP, Open vessel (%)	22	20	0.11678	0.00969	0.00945	0.00427	0.01037	8.10%	3.665%	8.89%	2.4260
027.43	Magnesium, ICP, Microwave (%)	24	22	0.11139	0.00899	0.00726	0.00289	0.00782	6.58%	2.622%	7.09%	2.7026
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	12	10	40.602	6.7419	7.0637	1.0446	7.1405	17.43%	2.577%	17.62%	6.8358
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	21	19	43.547	8.0922	6.4988	2.6852	7.0317	15.29%	6.319%	16.55%	2.6186
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	19	17	46.570	8.2943	6.0164	2.6855	6.5885	13.30%	5.935%	14.56%	2.4534
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	21	19	41.808	11.321	5.8046	3.0203	6.5433	13.12%	6.825%	14.79%	2.1664
031.01	Phosphorus, Photometric (%)	48	44	0.71363	0.07751	0.04156	0.01077	0.04293	5.70%	1.476%	5.88%	3.9851
031.41	Phosphorus, ICP, Dry ash (%)	26	26	0.72451	0.03947	0.03797	0.01523	0.04091	5.24%	2.102%	5.65%	2.6864
031.42	Phosphorus, ICP, Open vessel (%)	23	21	0.73866	0.03811	0.03459	0.01801	0.03900	4.70%	2.446%	5.30%	2.1658
031.43	Phosphorus, ICP, Microwave (%)	29	27	0.74373	0.03978	0.03976	0.01074	0.04119	5.35%	1.444%	5.54%	3.8357
032.31	Potassium, AAS, Dry ash (%)	14	13	2.1689	0.11434	0.07372	0.04741	0.08765	3.43%	2.209%	4.08%	1.8488
032.41	Potassium, ICP, Dry ash (%)	25	22	2.0397	0.22455	0.09614	0.02786	0.10009	4.61%	1.335%	4.80%	3.5931
032.42	Potassium, ICP, Open vessel (%)	21	21	2.1525	0.12433	0.11055	0.08044	0.13672	5.14%	3.737%	6.35%	1.6996
032.43	Potassium, ICP, Microwave (%)	23	21	2.0498	0.23509	0.13887	0.04278	0.14531	6.64%	2.047%	6.95%	3.3964
033.00	Salt as chloride, Sol Cl (%)	19	16	2.0574	0.32681	0.15897	0.02179	0.16046	8.00%	1.097%	8.08%	7.3643
033.01	Salt as chloride, Poten Cl (%)	24	22	2.0183	0.04866	0.02626	0.02214	0.03435	1.30%	1.098%	1.70%	1.5516
035.31	Sodium, AAS, Dry ash (%)	20	20	0.74173	0.04764	0.04525	0.02109	0.04992	6.10%	2.843%	6.73%	2.3671
035.41	Sodium, ICP, Dry ash (%)	25	22	0.72242	0.04490	0.02471	0.01837	0.03079	3.38%	2.514%	4.21%	1.6763
035.42	Sodium, ICP, Open vessel (%)	18	18	0.72274	0.03854	0.03459	0.02403	0.04212	4.79%	3.326%	5.83%	1.7525
035.43	Sodium, ICP, Microwave (%)	26	24	0.72348	0.04544	0.04542	0.01261	0.04714	6.28%	1.745%	6.52%	3.7373
036.42	Sulfur, ICP, Open vessel (%)	20	18	0.34901	0.02985	0.02903	0.00905	0.03041	8.36%	2.605%	8.76%	3.3606
036.43	Sulfur, ICP, Microwave (%)	14	13	0.35140	0.02066	0.01958	0.00575	0.02041	5.54%	1.627%	5.77%	3.5490
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	13	11	65.707	64.439	16.324	2.0444	16.452	34.25%	4.290%	34.52%	8.0471
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	20	18	62.222	21.045	12.331	7.4068	14.385	21.10%	12.677%	24.62%	1.9421
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	18	16	53.194	5.3060	2.9348	3.6929	4.7170	5.61%	7.061%	9.02%	1.2773
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	27	26	49.917	7.0171	6.6208	3.2879	7.3922	13.26%	6.587%	14.81%	2.2483
106.02	Vitamin A, LC (KU / kg)	21	18	46.061	11.311	8.9346	2.9888	9.4212	18.68%	6.247%	19.69%	3.1522
109.02	Vitamin E, LC (IU / kg)	14	13	202.36	85.993	83.019	6.3744	83.263	42.83%	3.288%	42.95%	13.062
120.00	Alanine, Post-col Ninhydrin Der (%)	23	21	1.2114	0.07050	0.04548	0.01618	0.04827	3.79%	1.348%	4.02%	2.9832
121.00	Arginine, Post-col Ninhydrin Der (%)	23	21	0.62710	0.03467	0.02755	0.01112	0.02971	4.42%	1.785%	4.77%	2.6728
121.05	Arginine, Pre-col AQC Der (%)	8	8	0.59838	0.06714	0.06597	0.01762	0.06828	11.02%	2.945%	11.41%	3.8750
122.00	Aspartic, Post-col Ninhydrin Der (%)	23	21	2.5528	0.08239	0.08115	0.02987	0.08648	3.18%	1.169%	3.38%	2.8946
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin (%)	23	21	0.52331	0.11509	0.04569	0.01307	0.04752	8.37%	2.394%	8.71%	3.6364
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	8	8	0.51328	0.07860	0.07795	0.01433	0.07925	15.19%	2.791%	15.44%	5.5317
125.00	Glutamic, Post-col Ninhydrin Der (%)	23	22	4.2964	0.18630	0.14710	0.07735	0.16620	3.41%	1.791%	3.85%	2.1486
126.00	Glycine, Post-col Ninhydrin Der (%)	23	20	0.48202	0.02158	0.01507	0.00549	0.01604	3.16%	1.150%	3.36%	2.9208
127.00	Histidine, Post-col Ninhydrin Der (%)	23	20	0.45996	0.03085	0.02608	0.00907	0.02761	5.63%	1.959%	5.96%	3.0433
128.00	Isoleucine, Post-col Ninhydrin Der (%)	23	21	1.4803	0.10687	0.05567	0.01631	0.05801	3.77%	1.104%	3.93%	3.5560
129.00	Leucine, Post-col Ninhydrin Der (%)	23	20	2.5304	0.09122	0.06268	0.02094	0.06608	2.50%	0.834%	2.63%	3.1555

Test Material Code # 201829

Issue Date : 10/31/2018

Method Code	Analyte and Method	Total # Labs Submitting	# Labs used in Precision Calcs	Precision Mean	Precision SD	Between Labs sL	Within Labs sr	Reproducibility SR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
130.00	L-Lysine, Post-col Ninhydrin Der (%)	24	21	2.1762	0.15055	0.12564	0.04871	0.13475	5.84%	2.264%	6.26%	2.7666
130.05	L-Lysine, Pre-col AQC Der (%)	9	8	2.1858	0.11006	0.10047	0.06357	0.11889	4.60%	2.908%	5.44%	1.8703
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	24	22	0.45127	0.02794	0.02314	0.01006	0.02523	5.09%	2.214%	5.55%	2.5077
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	23	21	0.82668	0.04217	0.04266	0.00886	0.04357	5.16%	1.071%	5.27%	4.9181
132.05	Phenylalanine, Pre-col AQC Der (%)	8	8	0.81319	0.03881	0.03562	0.02180	0.04176	4.38%	2.680%	5.14%	1.9160
133.00	Proline, Post-col Ninhydrin Der (%)	23	21	1.4872	0.13147	0.08991	0.03328	0.09587	5.96%	2.207%	6.36%	2.8810
133.05	Proline, Pre-col AQC Der (%)	8	8	1.5861	0.10123	0.09677	0.04201	0.10550	6.10%	2.649%	6.65%	2.5113
134.00	Serine, Post-col Ninhydrin Der (%)	23	20	1.2715	0.06054	0.04374	0.01691	0.04689	3.47%	1.343%	3.72%	2.7725
135.00	Threonine, Post-col Ninhydrin Der (%)	23	22	1.6331	0.07622	0.07430	0.02402	0.07808	4.55%	1.471%	4.78%	3.2511
135.05	Threonine, Pre-col AQC Der (%)	9	9	1.6461	0.08285	0.07992	0.03091	0.08569	4.86%	1.878%	5.21%	2.7725
137.00	Tyrosine, Post-col Ninhydrin Der (%)	16	16	0.66312	0.08764	0.08642	0.02062	0.08885	13.03%	3.110%	13.40%	4.3084
138.00	Valine, Post-col Ninhydrin Der (%)	23	21	1.4119	0.10883	0.09077	0.01722	0.09239	6.38%	1.211%	6.50%	5.3656
163.99	Lactose, Miscellaneous (%)	21	19	35.450	4.9766	3.2541	0.47135	3.2880	8.96%	1.298%	9.06%	6.9757
361.03	Lasalocid Sodium, LC (UV or FL) (mg/kg (ppm))	9	8	28.924	2.7339	1.1342	1.7740	2.1056	4.02%	6.295%	7.47%	1.1869

Notes: Precision Calculations provided for methods with 8 or more labs used in calculations.